Iron deficiency is caused by the increase of iron loss, decrease of iron absorption, abnormal eating habit and etc. Iron loss is mainly caused by bleeding and the amount of blood loss is determined by using Cr-51-RBC. Iron absorption was determined by using a whole body counter measuring 14 day whole body retention after oral Fe-59 dose. Iron deficiency status is consist of simple iron deficiency(IDA), iron deficiency with complication(IDA+c), iron deficiency without clinical symptom(ID), and etc. Among these iron deficiency status, iron absorption was increased in IDA, less in IDA+c and it was between IDA and normal in ID. No significant difference was observed between normal male and female in iron absorption, although storage iron was lower in normal female than male. In general, iron absorption was mainly controlled by the amount of storage iron and effected by hematopoietic activity. Iron absorption delivers the important informations for the diagnosis of iron deficiency status and for choosing the route of oral or intravenous of iron administration in treating the patients with IDA and iron deficiency tissue disorders.

Platelet kinetics by radioisotope labeled platelets were investigated in patients with splenomegaly. Patients with five cases of hereditary spherocytosis, 2 cases of essential thrombocythemia, 2 cases of myeloproliferative disorders with splenomegaly, 2 cases of hereditary spherocytosis, 1 case of myelo- plastic splenomegaly, 3 cases of normal platelet life span, 3 cases of so-called Banti's syndrome and 2 cases of agranulocytosis were studied. Platelets were labeled by the methods of International Committee for Standardization in Hematology for Cr-51, Thakur et al for In-111-oxine,Dewanjee et al for In-111-tropoline respectively. Characteristic features of platelet kinetics in all patients with splenomegaly were increased platelet pooling in the spleen with normal platelet life span, very low recovery of labeled platelets, marked accumulation of labeled platelets in the spleen observed by scintillation camera. Platelet counts and platelet production calculated from platelet kinetic data were different between each group of splenomegaly. Platelet production were markedly accelerated in myeloproliferative disorders, moderately accelerated in hereditary spherocytosis, normal in so-called Banti's syndrome and low in liver cirrhosis. In conclusion, increased platelet pooling in the spleen were commonly observed in various disorders with splenomegaly.

Thrombokinetics combined with RES function assessment in chronic ITP. Y. Takahashi, A. Isomura and K. Akasaka. R I Center and Hematology, Tenri Hospital.

Thrombokinetics (PIK) with Cr-51 or In-111 oxine labeled platelets was carried out in 28 chronic ITP patients in association with splenic RES function study using Tc-99m labeled, IgG coated(D-R) and/or Cr-51 labeled NEM-treated(N-R) red cells. With the values of effective survival in PIK and extraction ratio (ER) in D-R and/or N-R clearance, the subjects were classified in four groups. In group A with remarkably reduced platelet survival(ESV) and suppressed ER, patients demonstrated poor response to splenectomy(SpX) or high-dose immunoglobulin therapy(IgG). In group B with remarkably reduced ESV but nearly normal ER, better response to steroids (STH) and SpX and much better one to Ig developed than those observed in group A. In group C with slightly reduced ESV and nearly normal ER, the response was fairly well to SpX but relatively poor to STH and IgG. In group D, slightly reduced ESV with remarkably suppressed ER were considered to reflect suppressed state of RES by STH or Ig, where post effective SpX cases could be included. Actual platelets' survival reflects severity of their autoaggregation state relative to RES' destruction capacity. Thus, thrombokinetics study combined with RES' function assessment especially with D-R for macrophage Fc-receptor mediated extraction was useful for evaluation of the severity of the disease in reference to therapeutic effect.